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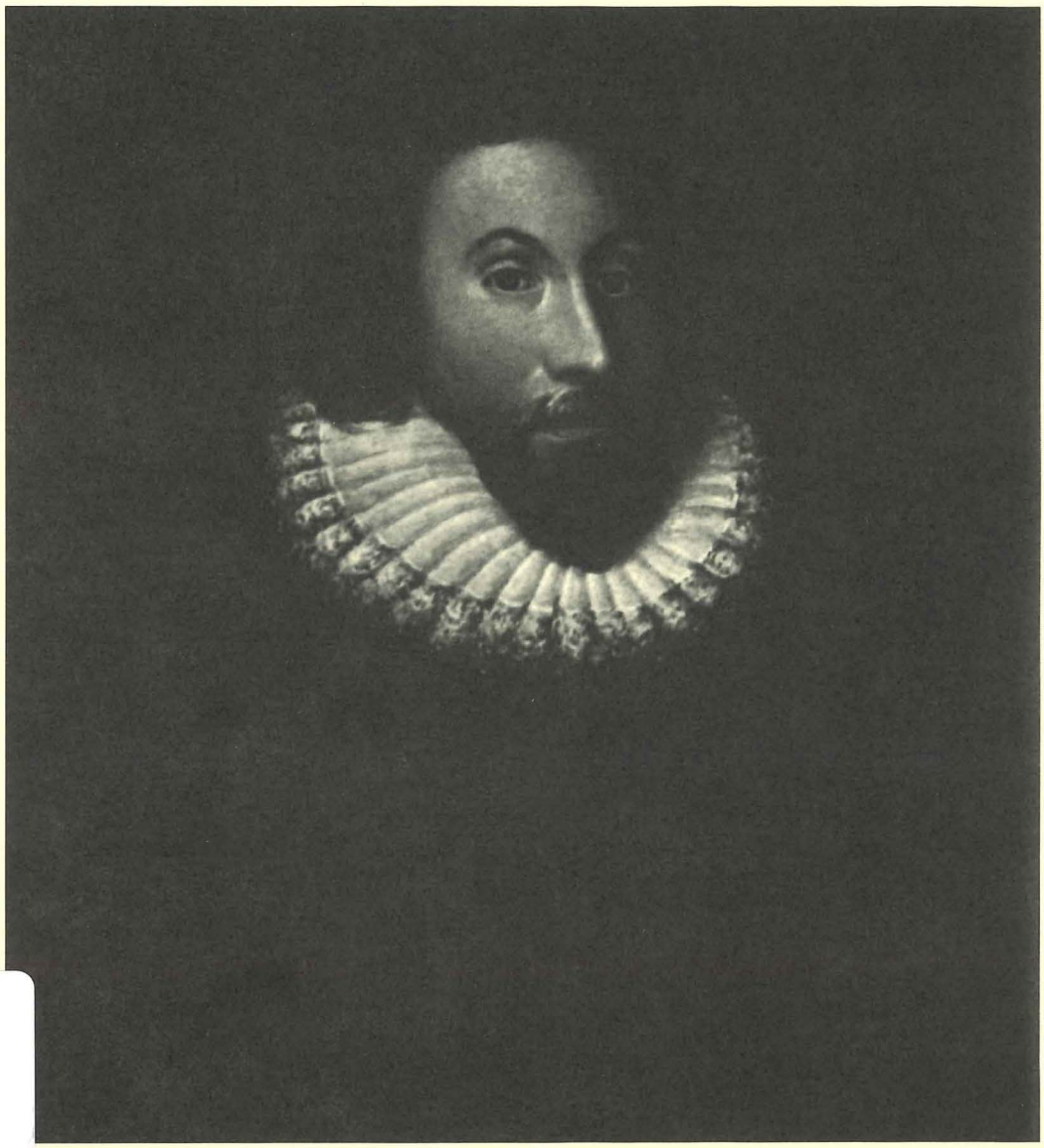

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"The object of the Society shall be the collection, preservation and publication of historical and genealogical matter relating to the early settlement and subsequent history, especially of New Haven and its vicinity, and incidentally of other portions of the United States."

The museum and library of the Society are open to the public. There is a fee of $2 to non-members for use of the library; the museum is open free of charge. In addition to the Whitney Avenue building, the Society owns the Pardee-Morris House at 325 Lighthouse Road, Morris Cove, New Haven. Built originally about the middle of the eighteenth century, it was burned during the British invasion in 1779. Rebuilt at once, it incorporates surviving portions of the older structure. The Pardee-Morris House is now restored and furnished appropriately and is open to the public during the summer months.

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CONTENTS

The Constitutionality of the Settlement of New England
Floyd M. Shumway page 3

Jonathan Leavitt: Yale Class of 1822
Cora E. Lutz page 14

Inventors and Industries in Northford, 1840-80
Herbert C. Miller, M.D. page 21

The Astronomical Society of New Haven
James D. English page 27

Cover: John Winthrop, first Governor of the Massachusetts Bay Colony, which made off with its charter and then deviated from its requirements.

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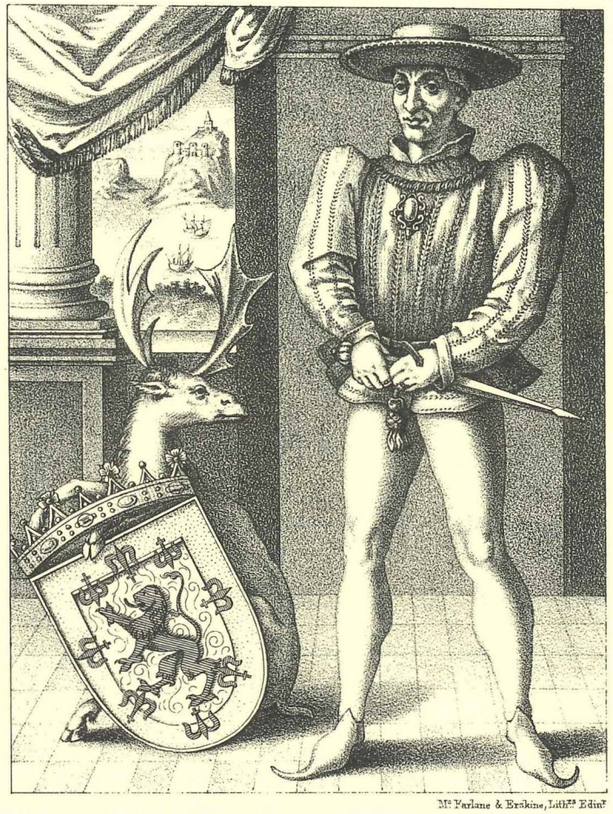

King James I, who in theory owned all of North America personally.

The Constitutionality of the Settlement of New England

by Floyd M. Shumway

The founders of New England have been worshipped for their fine qualities and vilified for their faults to the point where it is sometimes difficult to see the real seventeenth-century colonist through the haze of interpretation. Any method of analysis tending toward greater objectivity should be welcome, and this article will therefore review the events in the settlement of New England from a purely constitutional point of view. These events will be appraised not in terms of their supposed ''goodness'' or ''badness'' but rather in terms of whether they were legal or illegal. It must be kept in mind, of course, that there is not necessarily any correlation between legality and ''goodness'' or between illegality and ''badness.''

The Reign of James I, 1603-25

The English Crown claimed the North American mainland on the basis of John Cabot's 1497 discoveries.[1] Although there had been no successful colonization prior to the reign of James I, the legal device for authorizing settlements was already familiar. This convenient and flexible instrument was the royal charter, originally granted to boroughs at home but equally useful in the creation of companies to trade overseas or to combine trade with exploration or colonization. By means of such charters, James and his successors would delegate local authority in New England to private corporations or to individual proprietors.

North America theoretically belonging to the king rather than the nation, Parliament appeared to have no colonial responsibility. No legislation was attempted before the Civil War, but Commons did twice try to hear colonial grievances, in 1621 and 1624.[2] King James successfully blocked both efforts.

There were few precedents to interpret, so the judiciary played little part in establishing policy for New England. Then too, the early Stuart monarchs felt no need for support on this subject from that quarter, and experience prior to emigration had conditioned the colonists to stay clear of English courts.

In 1606 the king granted a charter to a joint stock company for the purpose of developing North America. This corporation was shortly divided into two sections, each to have its own sphere of activity. One of them, the so-called Plymouth Company, its name deriving from the Devonshire city where it maintained its headquarters, was given jurisdiction over that part of the continent lying between forty-one and forty-five degrees latitude, an area that included New England. Most of the Plymouth Company stockholders were fishing merchants from the western ports of England who had a secondary interest in the fur trade, but the real leadership was provided by Sir John Popham and Sir Ferdinando Gorges, two Royalists who dreamed of building a colonial empire.[3]

The new corporations had two features that were important from a constitutional point of view. The patentees could send settlers to America, but the latter had to make separate application to the king for valid land titles, because the Crown was considered to own all land on a feudal basis.[4] Secondly, a local council in each colony was allowed to set up any regulations not in conflict with English law, so that in effect English law and the rights of the king's subjects could go wherever Englishmen established colonies.

The Plymouth Company founded a colony in 1607 at the mouth of the Kennebec River, but it proved a failure and was abandoned within a year. Gorges and his associates never gave up completely, but the best they could do thereafter was to maintain a handful of modest fishing stations along the coast.

The energetic Gorges tried to revive the company in 1620, getting it reorganized as the Council for New England. He hoped that income from the sale of fishing licenses would pay for the establishment of plantations, but inadequate financing made any real success impossible.[5]

Purely by chance the Council for New England did acquire a plantation almost immediately. The Pilgrims, formerly voluntary religious exiles in Holland, migrated to America in 1620 intending to settle on the Delaware River, but the lateness of the season compelled them to land instead in New England, where they established the Plymouth Colony. They had sailed with a grant from the London Company, which had jurisdiction over the Delaware River area, and although they had been refused a royal charter conveying title to the land they were to occupy, they had been assured that King James had no objection to their plans.

Now from necessity they had become squatters, but their status was corrected in 1621 by a grant from the Council for New England. This new grant authorized the Pilgrims to stay where they had landed, but it did not fully protect the Plymouth Colony, since it was made not to the colony itself but to the corporation, consisting of seventy English businessmen, which had financed the expedition. The colonists bought out their backers in 1633, but that transaction did not give the purchasers possession of the 1621 charter.[6]

The Plymouth Colony tried hard to abide by all the rules of colonization, yet it ended up in a very dubious legal position, having neither royal charter nor

grant from the Council. Furthermore, it established a form of government for itself, an understandable but completely unauthorized action. The Mayflower Compact, the instrument creating this government, did recognize the sovereignty of the king, but it demonstrated an independent attitude, and it set a precedent copied later elsewhere in New England.

The Reign of Charles I, 1625-42

The establishment of the Massachusetts Bay Colony, next and largest of the New England plantations, was based on a 1628 grant from the Council for all the land from the Atlantic to the Pacific between a point three miles north of the Merrimac River and a point three miles south of the Charles River. This grant was made to a group of prominent Puritans, and it was made by the Earl of Warwick, himself a leading Puritan, acting as president of the Council while Sir Ferdinando Gorges was away at war.[7] It is impossible to know whether Warwick deliberately cheated Gorges or whether he considered the Council so moribund that none of its previous actions had any validity, but for one reason or the other some of the territory given the Puritans had already been granted to Sir Ferdinando, to his son Robert or to John Mason, who had become Sir Ferdinando's closest associate after Popham's death. The grantees also acquired the small settlement at Salem, but this was intentional and in accordance with the wishes of both the Salem residents and the Massachusetts Bay Company.

In March 1629, King Charles I granted this same group a royal charter, creating a corporation styled the Governor and Company of Massachusetts Bay in New England. It was to be managed by a governor, a deputy-governor and a council of eighteen assistants, all to be elected annually by the freemen, or stockholders, of the company. Unlike other instruments of this type, there was no requirement that meetings of the company had to be held in England. This omission may have resulted from carelessness, or it may have been arranged by the grantees, who were by no means unsophisticated about the workings of the law.

The leading men in the company met secretly in August 1629 and resolved on a migration to New England, provided they could without breaking the law take the charter with them and thus move the corporation physically to Massachusetts. Having decided that this action was possible, they transferred ownership so that only those intending to leave England continued to be stockholders, and in October a new slate of officials was elected, headed by John Winthrop as governor. He and the other migrating stockholders sailed with a large number of followers in 1630, taking with them the precious charter.

The Plymouth settlers appear to have been sincerely anxious to stay within both the letter and the spirit of the law. It does not seem unfair to suggest that, by contrast, the founders of Massachusetts paid lip service to the letter of the law largely to conceal their intention of building a commonwealth tending toward political independence and serving as a refuge for those Puritans who wished to live beyond the effective reach of the king.

Whatever their attitude up to the time they reached their new home, political necessity soon made them deviate from the governmental structure dictated by their charter. To meet the demand for an expanded franchise, understandable since there were perhaps no more than a dozen qualified voters among the settlers, a number of members of the new Congregational churches were made freemen, although they did not become owners of stock. [8] Neither arbitrary appointment of freemen nor a franchise based on membership in a nonconformist sect would have passed judicial review in England. Furthermore, because freemen living in outlying towns found it inconvenient to attend meetings in Boston, they were soon permitted to send elected deputies to represent them at the quarterly meetings of the General Court. Therefore, by 1635, without any authorization the Massachusetts Bay Colony had developed a bicameral parliamentary government with the assistants forming the upper house and the deputies the lower.

Sir Ferdinando Gorges had to withdraw his few settlers from Massachusetts when the Puritans arrived, but he was unwilling to admit defeat. In 1632 he petitioned for redress, shrewdly stressing that the Bay Colony had severed its relations with both the Anglican Church and the English government and claiming that it was likely to rebel against the king. The charges were dismissed after a thorough inquiry, but in 1634 a permanent board of the Privy Council was set up to keep an eye on the colonies. A committee appointed to probe again into the situation in Massachusetts demanded that the charter be turned over to it for study. The thoroughly alarmed colonial officials returned an evasive answer in lieu of the charter.

At the suggestion of Sir Ferdinando, the king then entered into an agreement designed to crush the Puritan colonists. [9] The Council for New England surrendered to Charles its charter and all its corporate rights in America. In return he divided New England on a proprietary basis among the surviving members of the Council, thus voiding all previous grants including the one to the Puritans. Gorges and John Mason, appointed governor-general and vice-admiral of New England respectively, were authorized to take possession of the area by armed force. [10]

The program proved difficult to carry out. First Mason died suddenly, and then Gorges encountered a series of frustrations and disappointments, not the least of which was lack of backing by the king, who became preoccupied with an impending uprising in Scotland. [11] Meanwhile the Massachusetts Bay Colony spent 1635 and 1636 preparing to repel invasion. [12] Charles had certainly treated the settlers unfairly, but no statute forced English kings to be fair to anybody. Massachusetts was in very poor shape legally, and it did not improve its case by planning a revolution which did not take place only because Gorges finally gave up his attempt to organize an expeditionary force.

The beginnings of the Connecticut Colony can be traced back to what is called the Warwick Patent, supposedly granted in 1632 to the Earl of Warwick and other socially important Puritans who wanted a refuge to which they could flee in case

their situation in England became intolerable. The land they received extended north and south between the Connecticut River and the Narragansett River and east and west between the Atlantic and the Pacific. The fact that there does not happen to be any Narragansett River was to cause a considerable amount of future misunderstanding.

John Winthrop, Jr., son of the Massachusetts governor, was employed as agent by the Warwick patentees, and in 1635 he founded Saybrook at the mouth of the Connecticut River. Three other towns, Windsor, Wethersfield and Hartford, were settled farther up the river during that year and in 1636 by men who left Massachusetts because they did not care for the rigid theocracy being imposed on them there. Young Winthrop notified the newcomers from Massachusetts that they were occupying land controlled by his employers. They accepted the claim, paid for the land and later bought Saybrook from the Warwick group and absorbed it into their colony. They were so pleased with Winthrop that they absorbed him, too, and made him their governor. They established a government in 1639 by writing a constitution called the Fundamental Orders.

The Connecticut Colony as it existed after 1639 could not have been more illegal. Warwick and his friends undoubtedly had some sort of verbal understanding with the Council for New England, but it appears that no patent was ever issued. [13] Connecticut paid for the towns up the river and for Saybrook, the latter purchase being made, incidentally, from a man who was probably not authorized to make the sale, all in the expectation that they were acquiring the Warwick rights. [14] It was an unfortunate misunderstanding and not the result of any deception, but the purchases gave Connecticut no real standing under the Council for New England, and it had of course no royal charter. Worst of all, its constitution mentioned neither the king nor England. Connecticut had, in other words, declared itself an independent republic.

The New Haven Colony was founded by Theophilus Eaton, a wealthy London merchant, and his boyhood friend John Davenport, a much-persecuted Puritan minister. They and their followers fled secretly from England in 1637, wintered in and around Boston and settled New Haven the next year. The Fundamental Agreement, signed in 1639, defined the electorate and established a political jurisdiction which served until several satellite communities grew up around New Haven. The government was reorganized in 1643 on the Massachusetts pattern, with elected deputies representing the several towns.

Neither the Council for New England nor the Crown had in any way authorized the New Haven Colony, and if there had really been a Warwick Patent, the town would have been located on land belonging to the patentees. The colonists erected an independent republic recognizing no higher authority. They created laws repugnant to those of England, basing justice, for example, on interpretations of the Scriptures instead of on common law. They had no juries. They adopted the Massachusetts form of government, which was itself unprecedented, unauthorized and consequently unconstitutional. They based the franchise on

Roger Williams, who founded Rhode Island after proving too quarrelsome for Massachusetts.

membership in an illegal religious sect, and they made New Haven even more of a theocracy than the Bay Colony. Compared to New Haven, Massachusetts and Connecticut looked like models of constitutionality.

The Civil War and the Protectorate, 1642-60

During the Civil War and Interregnum, Parliament tried to take over the task of governing the colonies, but it does not seem that it had any constitutional right to do so until 1649 when Charles I was executed and kingship was abolished. The colonists accepted the pretensions of Parliament only when compliance suited their purposes.

Massachusetts, Plymouth, Connecticut and New Haven organized a loose federation in 1643, primarily to arrange for mutual defense against Dutchmen and Indians. The United Colonies of New England was formed without permission from England, and the document creating it acknowledged no English allegiance. Never particularly powerful, it became weaker after New Haven ceased to be a colony in 1666, and it finally collapsed in 1684 when the Massachusetts charter was annulled.[15] It interests us constitutionally only because it demonstrates that in 1643 the colonists sought authorization from neither Charles II nor Parliament, although the latter was backed by the Puritan faction in England.

Massachusetts insisted on religious orthodoxy, and it expelled people who disputed the truth as preached from its pulpits. Some of these quarrelsome souls, starting with Roger Williams in 1636, founded what became Rhode Island. By 1641 they had settled four towns around Narragansett Bay, recognizing some community of interest but with no central jurisdiction. Because of the querulousness of the settlers, even the four local governments lacked stability.

In 1643 the Long Parliament created a board of commissioners, headed by the ubiquitous Earl of Warwick, to manage colonial affairs. Roger Williams journeyed to London and in 1644 obtained a charter for Rhode Island from the board, which

conveniently overlooked the fact that it had just given Massachusetts all the mainland around Narragansett Bay.

It took Williams another three years to coax his fellow settlers into organizing their government, and the United Colonies always claimed that Rhode Island was too politically erratic to qualify for membership in its organization.[16] From 1644 on, however, Rhode Island was recognized as a colony, and nobody questioned the value of a charter granted by Parliament until 1660 when, after the coronation of Charles II, it became suddenly worthless.

New Haven appointed a commission to go to London to ask for a charter and to promote trade with England. These colonists had not prospered, and they staked much on this venture, procuring an expensive ship and loading it with valuable merchandise. Electing in their enthusiasm not to wait for good weather, they cut a channel through the ice in New Haven harbor, and in January 1646, their vessel put out to sea carrying too much of the net worth of the colony, several of its ablest citizens and all of its hopes. The ship was never heard from again.

It became clear that not every colony coveted a grant from the Long Parliament. In 1651 that body directed Massachusetts to turn in its old Charles I charter in return for a brand-new one. Massachusetts took no action for a year and then wrote back stating blandly that it was quite satisfied with things the way they were. No further action was taken.

Constitutional issues necessarily become confused during a period of civil war. The significant thing about the behavior of the New Englanders at this time was that they were as indifferent to parliamentary authority as they previously had been to that of the king. They turned to England only when doing so appeared to be in their immediate self-interest.

The Reign of Charles II, 1660-85

At the start of the Restoration, the English government might for the first time be said to have a colonial policy with respect to New England. It was a vindictive policy lacking any constructive purpose, but at least it was consistent. Massachusetts, the biggest colony, had offended most seriously against Charles II's father, so bad things should be made to happen to it.[17] New Haven should also feel the royal wrath because two of the Regicides had found asylum there for several months and because that colony had taken a remarkably long time to recognize the restored monarchy.[18] As a pointed contrast, the other colonies were to be shown a certain amount of favor. Feudalism having been legislated out of existence in 1660, the Crown could no longer claim actual ownership of North America, but the initiative in conducting foreign policy continued to rest with the king for some time to come.

Massachusetts rushed commissioners to meet with Charles, and he agreed to respect the charter of that colony if it would swear allegiance, administer justice in his name, stop limiting the suffrage to church members and relax the prohibition against Episcopal worship. Massachusetts agreed to administer justice in the

king's name, referred the other demands to a committee and let the matter drop. Charles bided his time.

A royal charter given to Connecticut in 1662 described its territory as including the land claimed and occupied by New Haven. This blow proved fatal to the latter colony which, after a bitter last stand, submitted to its neighbor and became part of Connecticut in 1666.

The Connecticut charter set the eastern boundary of the colony at the Narragansett River, which Connecticut took to mean Narragansett Bay. A royal charter presented to Rhode Island in 1663 stated that there had been an error in the Connecticut document and that the border between the colonies was actually the Pawcatuck River. Connecticut refused to accept this revision, and the resultant feud lasted until 1703.

Plymouth could have had a charter at this time but declined because of unacceptable contingent conditions. [19]

In 1664 royal commissioners went to Boston. They were to look into colonial conditions generally, but their particular objective was to determine whether or not Massachusetts had complied with the demands made by Charles II when he confirmed its charter. [20] The commissioners did not arrive as lonely tourists; their traveling companions included two shiploads of British soldiers.

The Massachusetts officials proved to be masters of deviousness and delay. They had to be to conceal the facts that the king's demands had been largely ignored and that their merchants were already starting to evade the recently enacted Navigation Acts. The troops went off to capture New Amsterdam, then returned to Boston, but soon got involved in further fighting against the Dutch. The commissioners withdrew, having accomplished little. Clarendon, who had devised the anti-Massachusetts policy, was losing power and would soon cease to be Charles' minister. The king decided that for the present he wanted to keep Massachusetts cooperative enough so that it would comply with the Navigation Acts. [21] Punishment for past sins could wait. Charles was a patient man.

The Bay Colony enjoyed eleven years of freedom from interference, until in 1675 a committee known as the Lords of Trade was brought into being to control the colonies, particularly Massachusetts. An agent named Edward Randolph was sent to Boston to conduct an investigation, and after a year he reported that the colony was guilty of violating the Navigation Acts, coining its own money, imposing an oath of fidelity to its government, passing laws contrary to the laws of England, oppressing other colonies and executing Quakers and members of other religious sects. Massachusetts had all the characteristics, Randolph said, of an independent commonwealth, and of course he was right.

London appointed Randolph customs collector in Boston, and he stayed there fourteen years trying to enforce the Navigation Acts, spying and reporting to England and building a small but useful Loyalist party in Boston.

Nothing up to this point has been said about Maine, which had never become a colony and which had not been very vigorously developed. Back in 1622 Sir

Ferdinando Gorges and John Mason had been jointly granted what is now Maine and New Hampshire. In 1639, the area having been split, Maine went to Gorges under a proprietary charter, but his control was never more than nominal. Massachusetts took over Maine in 1652, a year when Oliver Cromwell was running England and his government was not actively protecting the overseas real estate interests of Royalist families. Charles II's commissioners to Boston took Maine away from its captors in 1665, but Massachusetts repossessed it again three years later.

Sir Ferdinando's grandson took his claim to court in 1677, was declared the rightful owner of Maine and offered to sell it to the king. While Charles was thinking about buying it as a gift for his favorite illegitimate son, Massachusetts moved fast and made the purchase itself. [22]

Charles II had tolerated repeated lawless acts by Massachusetts, but this perfectly legal real estate transaction made him furious. He wrote demanding the resale of Maine to him, and he insisted that Massachusetts start complying with the instructions he had issued seventeen years before when he confirmed the charter. The General Court returned a conspicuously vague answer in May 1680, which seemed to indicate that some of the king's wishes had been carried out and that others would be presently. The letter made no reference to the province of Maine.

New Hampshire had been granted to John Mason, but he did very little with it, and after 1643 four towns were founded there under Massachusetts jurisdiction. The Mason claim was revived after 1660, but the judges decided in 1677 that neither that family nor Massachusetts was the rightful owner. The king was therefore able to turn New Hampshire into a royal province in 1679, scoring one small triumph over his enemies on the Bay.

The king now evidently decided to attack the liberties of all his subjects in New England and to gain full personal control over the several colonies. This objective was part of a larger program of tyranny which in England took the form of sneak attacks on borough charters. [23]

His first colonial move was a letter threatening legal action against the Massachusetts charter that was received in Boston early in 1682. A mission went to London to negotiate. It failed, and the government demanded surrender of the charter. Massachusetts refused, so a decree in chancery annulled it in 1684. The government then prepared to annul the charters of Connecticut and Rhode Island and to merge them with New York, New Jersey and the rest of New England, forming the Dominion of New England under the direct control of the Crown. At this moment the king died, and the program came to an abrupt halt.

The reign started with a vendetta against two New England colonies and ended with a plot against the liberties of all of them. The king's purpose and tactics should not obscure the fact that not one of those colonies could have justified its conduct or its form of government in an English court of law.

The Reign of James II, 1685-89

James II went ahead with the creation of the Dominion of New England, because the idea of centralizing power in the hands of the Crown was at least as pleasing to him as it had been to his brother. Sir Edmund Andros, sent over as governor in 1685, suspended habeas corpus, censored the press, abolished the colonial governments and took over the taxing power himself. The charters of Rhode Island and Connecticut were rescinded, but Andros was not able to take physical possession of the latter document because the Connecticut officials defiantly hid it in an oak tree. Joseph Dudley, head of Edward Randolph's Tory party in Boston, smugly remarked in 1687 that the only privilege then left to New Englanders was the right not to be sold into slavery.

William of Orange landed in England on November 5, 1688. James II tried ineffectively to organize a defense and then fled to France. On February 6, 1689, William and Mary were proclaimed king and queen, and the Glorious Revolution had ended.

News traveled slowly, so it was not until April 4 of that year that it was learned in Boston that the Prince of Orange had invaded England and that a civil war of uncertain outcome had begun. The crisis was discussed earnestly for two weeks, and then on the eighteenth there was a beating of drums, a signal fire was lighted on Beacon Hill and militia began to move into the city. The following day Andros and Randolph and Dudley were arrested, and Massachusetts had completed its own Glorious Revolution. There was nobody to arrest in the other New England colonies, so the local officials who had been ejected on Andros' arrival simply resumed office, thereby terminating the Dominion of New England and reviving the colonies.

The Colonial Structure of New England after 1689

Because the decree annulling the Connecticut and Rhode Island charters had not been formally enrolled, the new government considered it void, and the charters remained in force, serving those colonies as constitutions until 1818 and 1842 respectively. In order to consolidate New England as much as possible, William III did away with Plymouth and Maine, neither of which had ever had a charter, making them parts of Massachusetts, but he was persuaded to allow New Hampshire to keep its identity.[24] Vermont continued to be unoccupied by English settlers, and so no jurisdictional arrangements had to be made for that area. The new charter that William gave Massachusetts somewhat reduced its independence. That colony kept its elected legislature and the power to tax itself, but it had to accept governors appointed by the Crown and a franchise based on ownership of property rather than on church membership. Furthermore, all laws passed by its legislature had to be approved in London.

There remains now the task of finding such constitutional significance as there may be in this chronicle of events. The first and perhaps weakest of the colonies, Plymouth, made an honest if unsuccessful effort to colonize constitutionally, and from time to time others showed a willingness to cooperate with London in return

for some tangible favor, usually a charter. On the other hand, every New England colony, and particularly Massachusetts, repeatedly defied the constitution and gave ample evidence of a strong desire for the greatest possible freedom from English control. It is not unrealistic to suggest that the American Revolution became inevitable, not in 1763 or 1774, but in April 1630, when the *Arbella* left England bearing the charter of the Massachusetts Bay Colony.

NOTES

1. James Kendall Hosmer, ed., *Winthrop's Journal: "History of New England"* (New York, 1908), p. 8.
2. Cambridge University Press, *Cambridge History of the British Empire* (Cambridge, 1929), vol. 1, p. 175.
3. Rowse, "New England," *American Heritage,* vol. 10, no. 5 (August 1959), p. 111.
4. *Cambridge History of the British Empire,* vol. 1, p. 79.
5. Rowse, "New England," *American Heritage,* vol. 10, no. 5, p. 106.
6. *Cambridge History of the British Empire,* vol. 1, p. 157.
7. Rowse, "New England," *American Heritage,* vol. 10, no. 5, p. 110.
8. *Cambridge History of the British Empire,* vol. 1, p. 161.
9. John Fiske, *Beginnings of New England* (Boston & New York, 1898), p. 121.
10. Ibid., p. 121.
11. *Cambridge History of the British Empire* (Cambridge, 1929), vol. 1, p. 178.
12. Ibid.
13. Dorothy Deming, *Settlement of the Connecticut Towns* (New Haven, 1933), p. 79.
14. Charles M. Andrews, *Beginnings of Connecticut, 1632-1662* (New Haven, 1934), pp. 60-61.
15. Fiske, *Beginnings,* p. 226.
16. Ibid., p. 170.
17. *Cambridge History of the British Empire,* vol. 1, p. 258.
18. Fiske, *Beginnings,* pp. 221-22.
19. *Cambridge History of the British Empire,* vol. 1, p. 258.
20. David Ogg, *England in the Reign of Charles II* (Oxford, 1956), vol. 2, p. 680.
21. Ibid.
22. Fiske, *Beginnings,* p. 288.
23. Ogg, *England in the Reign of Charles II,* vol. 2, p. 688.
24. Fiske, *Beginnings,* p. 308.

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Jonathan Leavitt: Yale Class of 1822

by Cora E. Lutz

''Apples don't fall far from the tree.'' This homely adage, widely used in rural New England a generation ago, was often pronounced by the cynical country-store ''sages'' in judgment on some youth who suddenly showed an unfortunate family trait. There is no reason to believe that the laws of heredity operate only in the case of negative characteristics; the example of Ezra Stiles, President of Yale College, and his grandson, Jonathan Leavitt of the class of 1822, illustrates the transmission of good qualities to succeeding generations.

Both Ezra Stiles and his grandson can be judged by their own writings. Although there is plenty of outside source material for the life of Stiles, including a contemporary biography by his son-in-law, Abiel Holmes, Stiles himself furnishes abundant evidence of his character and achievements in his vast collection of writings. His *Literary Diary,* amounting to fourteen volumes in his own hand, was published in 1901 in abridged form (over 1,800 pages in three volumes) by Franklin B. Dexter, and his great collection of *Itineraries and Miscellanies* was also abridged and published, along with select letters, by the same scholar in 1916. In addition, there are hundreds of letters and miscellaneous writings still in manuscript. Stiles's grandson, too, though he died at the age of eighteen in his junior year at Yale, left a collection of letters, some essays, several dramatic sketches, and some verse which was published by one of his sisters in a rare little volume entitled *Memoir of Jonathan Leavitt, a Member of the Junior Class in Yale College* and printed in New Haven in 1822.

As for Ezra Stiles himself, the facts are easily obtained: he was born in North Haven, Connecticut in 1727, the son of the Reverend Isaac Stiles, minister of the Congregational Church, and Kezia Taylor Stiles, daughter of the Reverend Edward Taylor, a poet, of Westfield, Massachusetts. His father was an irascible man, demanding and critical, who tended to antagonize his associates. His mother, an intelligent, gentle and compassionate young woman, died shortly after Ezra's birth. About a year later Isaac Stiles married Esther Hooker of Farmington, Con-

Jonathan Leavitt

necticut, and the couple had ten children, three of whom died in infancy. There is nothing to indicate that Ezra had a happy childhood or that he was close to his siblings. He was obedient and never rebellious. Although, even later, he never expressed any resentment, it is noteworthy that after he left home at the age of fifteen to enter Yale, he never returned for any length of time to stay with the family. On the other hand, he seems to have tried to learn what he could of his mother and her family. Although his grandfather Taylor had died when Ezra was two years old, Ezra later visited his uncle Eldal in Westfield and sought information about the family, particularly his gentle mother. He was given a great many of the family papers, including his grandfather's poetry. It is not relevant to review here the successful career of Ezra Stiles, first as tutor at Yale, then as minister of the Second Congregational Church at Newport, and finally as President of Yale College. It is enough to say that he had a brilliant mind, an insatiable curiosity about history, that he was a distinguished linguist and an amateur scientist of international fame; it is more to our purpose to mention his deep spirituality, his love for his fellowmen, his great compassion and his devotion to his family. Perhaps because he had missed the joys of a happy childhood, he was especially eager to create a pleasant homelife for his children. Unfortunately, in his *Diary,* he seems always self-conscious about revealing his deepest feelings, and so he suppressed many of the details one would like to know. When he does record an incident of deep personal significance, he writes it in Latin. The great exception to this practice is his very moving account of the death of his beloved first wife, Elizabeth Hubbard Stiles. There, besides his revelation of his great love for her, one finds the information that she was such a devoted wife and loving mother that the family was an unusually happy one. Ezra usually restricts his own

references to his young children to statistics of their height and weight at regular intervals. He taught his sons Hebrew and supervised their studies preparatory to college. The education of his daughters in the skills appropriate for women was in the hands of his very capable wife. Stiles does, however, always note in his *Diary* the number of times each girl (and their mother) read through the Bible in one year.

Stiles's later home in New Haven, under the supervision of his second wife Mary Checkley, widow of an old friend of Stiles, proved an exceptionally happy setting for his family. There Stiles enjoyed entertaining Yale students, and his five daughters and two sons spent very carefree evenings with their college friends. Indeed, this pattern of life was so pleasant that some of the daughters rejected very good offers of marriage, and Stiles thought that he would die without seeing them settle in homes of their own. In a little book entitled *A Family Tablet,* published in Boston in 1796 by Abiel Holmes, husband of Ezra's daughter Mary, there is a charming picture of the happy times they had writing verse, singing and playing games.

In 1796, a year after Stiles's death, his daughter Emilia (then thirty-five years old) married Jonathan Leavitt, a Yale graduate of the class of 1785, and later a lawyer in Greenfield, Massachusetts. They had six children: a son who died in infancy, four daughters, Sarah, Mary, Amelia, and Elizabeth, and a son, Jonathan, born in 1803. To the great sorrow of his family, their only son, only brother, died in his eighteenth year when he was a junior at Yale.

From Jonathan's letters and other writings that one of his sisters assembled, one is able to form an impression of the happy homelife that his father and mother had provided for their family, and also something of the personality of the young man. It is interesting to discover in the boy's letters indications of many of the character traits of his famous grandfather, as the letters quoted in this paper will show.

The unnamed sister, who published the little book of Jonathan's letters as a memorial to him, worked in a professional way. As a frontispiece, there is a fine portrait of the young man, followed by a short poem written by Jonathan in 1820. Two letters from clergymen in New Haven who were with him at the end, a letter from his roommate and one from a classmate to his father, and three more from college friends to his parents gave the sorrowing family some impression of the high regard in which Jonathan was held. Finally, there is a short obituary notice from the *Franklin Herald,* published in Greenfield on May 22, 1821.

The *Memoir* proper begins with a general statement by the editor concerning the frail health of the young man, his early instruction by tutors at home, and his experience during one summer at Deerfield Academy. There follow two letters written by Jonathan in 1815, dated at Greenfield: one to his cousin Joshua, who was teaching in Wethersfield, Connecticut; and the other to his sisters, who were visiting in New Haven. Nine letters, dated 1815-16, from Westfield, Massachusetts, where he went to school at the age of twelve, are addressed to

his parents, his sisters, and his cousin. In the next section, dated 1817-18, are letters from Amherst, where he was preparing for Yale at the Academy, and also two from Greenfield directed to family members. They are followed by two essays, each based on a Latin quotation, following the general practice of the eighteenth century. The remaining letters, beginning in October 1818, are dated New Haven and are directed to his father, his mother, his sisters, his cousin and several unidentified friends. He was at home in January 1821, as one noted from a letter to a friend. In February he was back in New Haven, writing to his family. The last letter, dated April 21, 1821, is addressed to his father. He died on May 10. The editor then adds a rather long section about her brother's last days and death, followed by some *Reflections,* which she found among his papers. A last section is composed of several prose compositions by Jonathan, then two short dramatic pieces and a series of his verses. The whole volume, including several necessary notes by the editor comprises 238 pages.

At his birth on April 9, 1803, the auspices appeared very favorable for the future of Jonathan Leavitt. Born into a prominent family, he had a number of distinguished clergymen among his forebears: the Reverend Jonathan Leavitt, his paternal grandfather; Dr. Ezra Stiles, his maternal grandfather; and the Reverend Isaac Stiles and the Reverend Edward Taylor, his maternal great-grandparents. Further, Jonathan was born into a very comfortable home of loving parents and sisters who idolized him. However, he was a frail child, subject to frequent colds, suffering from debilitating headaches and afflicted with an undiagnosed disease of the eye which resulted in an alarming loss of vision, so that at times study was made impossible. This disability prevented him from finishing his course at Amherst Academy, but he had completed the academic requirements to enter Yale. At college he could never study at night, and several times he had to interrupt his work because of his inability to pursue his lessons. While he was in college he tried to improve his general health by taking long walks to places on the outskirts of New Haven. He had managed to overcome numerous diseases of childhood, but when he contracted scarlet fever and then typhus, he died.

The letters he wrote during his short life reveal what a splendid person was lost to the world. Jonathan Leavitt was a boy of extraordinary charm. Warmhearted and friendly, he responded to people with a positive acceptance, and he took for granted their reciprocation. In this his instinct was correct, for even as a child he was accepted as a friend by all his associates. For example, he at once appreciated the kindness of the woman in whose home he stayed when he first went to boarding school at Westfield at the age of twelve. Homesick but brave, Jonathan wrote immediately to his sister Sarah and reported, "I have a charming place to board and am as happy as I could be from Greenfield." In a few days he wrote to his sister Mary giving evidence of the understanding of this friendly woman who permitted him and another boy to make molasses candy one evening. When he was at boarding school in Amherst, he also had a very sympathetic landlady who followed his progress in Greek with interest and ad-

miration. Later, after Jonathan's death, she told the family that he ''was the most blameless person she ever knew,'' and she thought the seeds of divine grace were in his heart. Jonathan exhibited the same cordial goodwill toward his instructors and classmates. In a number of letters he shows his warm friendship for his roommate, who in turn demonstrated his love for Jonathan when he and other classmates faithfully nursed him during his fatal illness. Yet Jonathan's deepest love and loyalty were to his parents and four sisters and to his home, which he called ''Social Villa.'' From his first homesick letters, when he begged his sisters to write to him about all of the happenings at home and urged them to visit him, to his last letters from New Haven, he reveals his deep love for his family. During the course of his correspondence with his parents, he responds with complete good humor to his mother's admonitions against frivolity; he earnestly seeks his father's counsel on the question of the religious revival at Yale and his own reaction to the preacher's insistence upon an admission of total depravity as a requisite for admission into the Church. At times he writes in a teasing spirit and occasionally with humorous verses to his sisters, but he never fails to tell them how much he values them and wishes to be with them. In his last illness, his one desire was to go home, but when he realized it would be impossible, he wrote and begged his parents to come to him, a request which they honored.

During his preparatory and college years, Jonathan had so well mastered his personal problems that he may well have given the impression of being a lighthearted, carefree youth, but he was really very ambitious and had early formulated plans for his career. By the time he entered preparatory school he had determined to become a distinguished scholar. He had already studied Latin before he went to Westfield Academy, and there he studied Vergil. He mentions going through Cummings Geography and wrote to ask his father's permission to enroll in a school for ''cyphering'' in Westfield where classes would be held only in the evenings. In June 1816, Jonathan fell and broke his arm. This accident kept him out of school for a year, during which time he was presumably taught at home.

The following autumn he entered Amherst Academy. There, as at Westfield, Jonathan anticipated the old static curriculum at Yale, which had changed little since Stiles's own college days. Thus, he studied Sallust, Livy and Horace in Latin, the *Iliad* and the New Testament in Greek, some Hebrew, and English grammar and composition. Even before he had to leave Amherst because of his eyes, he knew that he could never achieve greatness in literary scholarship and abandoned his dream with great reluctance. At Yale, he also studied Latin and Greek, but he mentions courses particularly in mathematics and science, namely arithmetic, algebra, geometry, logarithms, trigonometry, geography, navigation, mensuration of the stars, conics and spherics. This ambitious student had only one distinction to report to his family, a volume of Terence in Latin with a letter from President Jeremiah Day as a prize from the Berkeley Society for good work.

Oratory had always been of special interest to Jonathan. ''Exhibitions'' in which

the students would declaim their prize compositions were regular features of the academic program in preparatory school and in college. Twice Jonathan recalls that he had the opportunity to participate. On the first occasion, at Amherst, he was elated at the prospect and wrote to one of his sisters, inviting her to come, saying, ''Surely some Latin star presided at my birth, else I should not be appointed to astonish an audience with an unintelligible oratiuncula.'' The other occasion was at Yale in April 1821, when Jonathan was invited to write and present a colloquy at the ''exhibition'' at the end of the term. He writes, with suppressed pride, to his father, expressing the hope that he can be present for the occasion. This letter, dated April 21, 1821, was the last that Jonathan wrote.

Jonathan's parents were devout Christians, and they had no reason to doubt that their son would join the church in due course. He was a thoughtful, spiritually-minded boy. Many of his college friends were anticipating becoming ministers, and Jonathan was completely sympathetic to their convictions, for he had never doubted the great truths of the Bible and had considered himself a Christian. Not all of the Yale students were so thoughtful, nor were they concerned with their salvation, so the climate was right for a revival of the old values. In the summer of 1820 a great campaign for ''renewal'' transformed the campus. Such a complete change occurred that all the places of amusement were abandoned by even the more frivolous students, and the most thoughtless were driven to experience a great sense of sin and a longing for conversion. Jonathan was greatly impressed by the strength of the revival. Though he was moved to seek salvation, he could not seem to feel his own utter depravity, a state which seemed necessary for the reception of heavenly grace. In one of the most moving letters he ever wrote, he asked his father's advice and the intercession of his mother and sisters, ''that the Spirit may not cease to strive with him, till he be brought into the fold of the Lamb.'' Though Jonathan never succeeded in experiencing a feeling of total depravity, he did find peace and was received into Communion. In his zeal to give others the blessing he felt in his new state, he determined to become a missionary in foreign countries. When his family expressed their feeling that it would be better for him to become pastor of a church in this country, he persisted in his resolve but admitted that missionary work among the American Indians would be a rewarding experience. The honesty, earnestness and simplicity of these anxious letters make it clear that in Jonathan the Church would have had a dedicated advocate, a man of universal charity, with no trace of bigotry or fanaticism.

Any attempt to compare a young man of barely eighteen with a man of over sixty-five must appear a futile exercise. Yet in the extraordinary case of Ezra Stiles and his grandson Jonathan Leavitt, the old farmers' adage does seem to be borne out, as anyone who has read Stiles's *Diary* will agree. Stiles's universal charity, which enabled him to understand and establish friendly communication with all sorts and conditions of men, from Jewish rabbis to small children, appeared in Jonathan's warm-heartedness and won him friends everywhere he went. Stiles's

deep devotion to his family, though not openly confessed by him, became the warm love which was the very center of life for the grandson. Stiles's dedication to scholarship is reflected in Jonathan's determination to become a distinguished scholar. Stiles's excellence in oratory and his love for it is attested by not only his thousands of sermons but also by his public orations for Yale College and for the State of Connecticut; in Jonathan one notes the enthusiasm with which he welcomed opportunities to speak at school ''exhibitions.'' Even Stiles's conduct and his freedom from resentment when confronted with smaller minds who rejected his ambitious dreams of creating a united church of Protestant Christians and his plans for making Yale College into a great university seem to reappear in Jonathan; a cheerful adjustment to his physical disabilities which forced him to abandon his highest hopes. Stiles's unwavering faith in Christ, his lack of fanaticism, and his wish to extend the Gospel to unbelievers, particularly the American Indians, are seen again in his grandson, who accepted Christian doctrine from the beginning, and then, after joining the Church, wished only to spread the Word to foreign countries and to the American Indians. Even the twinkle in Stiles's eye caught in his portrait by Samuel King, finds a parallel in the humor and playfulness seen in Jonathan's letters. And the validity of the old adage is poignantly demonstrated by the fact that young Jonathan lies buried within the shadow of Ezra Stiles's monument in the Grove Street Cemetery.

Inventors and Industries in Northford, 1840-80

by Herbert C. Miller, M.D.

The small farming community of Northford, which stretches along the Farm River and Routes 17 and 22 from Durham to the village of North Branford, had its share of colonial mills and blacksmith shops, established as early as 1700. These establishments provided flour, lumber, tanned leather, wagons, hand-made tools and finished woolen cloth. There were at least nine dams on the Farm River as it ran through Northford and they helped provide the water power for these early mills. The flow of water in the river, which is a shallow brook about a rod in width at mean water flow, was not great, but it sufficed to encourage the building of factories and the burst of manufacturing that occurred between 1840 and 1880.

But the moderate flow of water and the nine dams were certainly not enough to account for the explosive outpouring of goods that led Earl C. May to state that Northford nearly became ''the shredded coconut capital of the world,'' ''the pin making capital of the world,'' and, for a decade, ''the Christmas card center of the world.'' Rather, Northford's heyday of manufacturing derived mainly from the ingenuity of its inventors, E. Chapman Maltby, the personnel of Smith & Cowles Co., and Maltby Fowler and his six sons; and from the practicality of Thelus Todd, farmer and cattle dealer, and David Stevens and his two sons.

The number and variety of inventions produced by the Fowler family were astonishing. Maltby Fowler came to Northford from Milford and established a factory in which he is reputed to have built the first wagon (not carriage) in Connecticut. He had six sons: William, George, De Grasse, Horace, Frederick and Thaddeus, who inherited some of their father's inventiveness—especially De Grasse and Thaddeus. A list of inventions produced by the Fowlers follows:

Maltby: machine for making buttons
Maltby and sons: machine for making pocket combs
Frederick Fowler and Isaac Bartholomew: first machine in the world for making perforated tinware

Frederick: machine for drawing out brass tubing; machine for making 6,000 screws per minute; machine for making cigars
Horace: made embossed rolls for making silk hats; made original dies for a pin-making machine
De Grasse and Thaddeus: pin-making machine; machine for sticking pins into pin-paper; machine for making hairpins
Thaddeus: machine for making horseshoe nails
De Grasse: machine for making cigarettes
George: machine for making tin lamps; machine for making platinum rivets
De Grasse and George: made a power press with slide box and eccentric ring
De Grasse and Thaddeus: machine for washing clothes

Many of their inventions had a considerable impact on society. Thaddeus Fowler's machine for making horseshoe nails relieved blacksmiths of the tedious job of making them by hand. The Fowlers' horseshoe nails were manufactured by the Paug Manufacturing Co., formed about 1855. The Fowlers and Bartholomews established the Northford Hook & Eye Co. The hooks and eyes were manufactured in a shop and were sewn on cards at home by women and children, who, if they worked quickly, ''could earn from six to twelve cents a day.'' The platinum rivets made by George Fowler's machine were used to attach false teeth to their plates. But probably the Fowlers' most famous inventions had to do with the common pin. Making common pins by hand required eighteen separate operations and was both tedious and expensive. The term ''pin money'' suggests a small amount in modern times, but in colonial days it amounted to quite a bit; a dozen handmade pins in pre-Revolutionary War days sold for seven shillings, six pence. ''Pin money'' was the amount of money husbands gave their wives for their incidental, personal expenses. The pin-making machines built by Thaddeus and De Grasse were not the first, but according to Chandler they were ''undoubtedly the best.'' The Fowlers' machine could turn out about 120 pins per minute. They started manufacturing pins in Northford in 1840, but sold the business in 1842 to Brown and Elton, who moved it to Waterbury.

This is not the end of the pin story: De Grasse and Thaddeus produced a machine that stuck common pins into paper packages, a process that formerly was carried out by hand by women who managed to package about 5,000 pins a day. The Fowlers' machine was capable of handling pins by the gallon, and they emerged neatly stuck into rolls of paper by a process that remained a ''mystery to all save the inventor and no one but the operator is ever permitted to enter the room.'' Perhaps what follows explains why no one was allowed in the room. Dr. John Howe of Derby also made a pin-sticking machine and sued the Fowlers for infringement of his patent. The Circuit Court of the United States, Second District, in New Haven, issued the judgment, witnessed by none other than ''the Honorable Roger B. Taney, Esq., Chief Justice of the Supreme Court of the United States, at New Haven this 12th day of May, A.D. 1843.'' Most of

us remember Chief Justice Taney as the writer of the majority opinion of the Supreme Court in the famous, or infamous, Dred Scott Case. The Fowlers lost several parcels of land as a result of this judgment, but the story has a happier ending. One of Dr. Howe's grandsons sold some of the land back to the town in 1961, enabling the town to build on it the Stanley Williams Public School.

Frederick Fowler, with the help of Isaac Bartholomew, invented machinery for making perforated tinware and, along with other men, organized the Northford Manufacturing Co. in 1854. Their tin shop was located on the Farm River about a half mile below the present Mill Pond Taverne. With the aid of twenty-five to thirty employees, they turned out large quantities of japanned tinware that was sold all over the United States.

The Julius Maltby family of Northford had three unusual male members in three successive generations. Julius was considered somewhat eccentric for having named his son Epaphras Chapman Maltby. The son became the successful innovator of the coconut dipper and of shredded coconut, and the father of Wilburt, who became the Champion Trick Cycle Rider of the World.

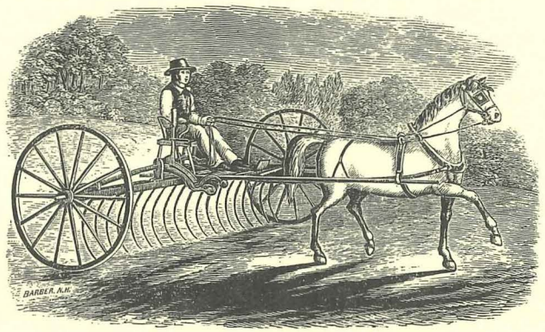
Chapman Maltby, as he preferred to be called, started his career about 1850 by making buttons, wooden spoons and axe handles on a site on the Farm River across from where the Mill Pond Taverne now stands. He soon added coconut dippers made out of coconuts shipped to New Haven. It occurred to him to lop off the top of the coconut, the contents of which were then disposed of by pitching them out the window, polishing the shell and adding a handle made of wood or Britannia. Some dippers had a Britannia rim and sold for $3.75 per dozen; plain dippers cost $3.50 a dozen. These were sold at a small profit to almost everyone who had a well and needed a dipper to hang by the ''old oaken bucket.'' The pile of coconut meat tossed out the window developed a most objectionable odor, and according to some accounts Chapman was about to lose George Scranton, Sr., who was his carpenter, wheelwright and general handyman, because of the smell. George is said to have suggested that the coconut meat be cut up and sold as food—anything to get rid of the odor. Efforts to dry and shred the coconut meat in the Maltby home met with success, attracting the attention of numerous consumers and some wily promoters from New York City, who tried to persuade Chapman to move his thriving enterprise to the big city. When persuasion failed, one New Yorker began making and selling great quantities of shredded coconut without legal permission. Chapman's father, Julius, would not allow his son to initiate any restraining legal action, saying that he should be satisfied to be making $100 a day in Northford. In 1876, Chapman's shredded coconut won a first prize at Philadelphia's Centennial Exposition. Besides being an innovator, Chapman Maltby was one of Connecticut's leading peddlers, keeping as many as four peddlers' carts on the road at a time.

The logo used in North Branford's Sesquicentennial celebration in 1981 was taken from an advertisement for a horse-drawn, self-operating hay rake patented by the Smith & Cowels Co. of Northford in 1861. The company took over some

SMITH & COWLES'

PATENT IMPROVED

SELF-OPERATING HORSE HAY RAKE.



(PATENTED SEPTEMBER 10th, 1861.)

THE CHAMPION RAKE FOR 1868.

THE NORTHFORD HAY RAKE AND GRAIN FIELD GLEANER has been in use about three years, and having stood the test of very many thoroughly practical farmers, is presented as unrivalled for simplicity, easy management, strength and efficiency.

The Axle is attached to the Shafts and Seat in such a manner that the weight of the operator acts as a partial counterpoise, either to hold the Teeth to the ground or in an elevated position. The Teeth are attached directly to the Axle, so that the Rake possesses the advantage over other Rakes of GLEANING CLEANLY on uneven ground.

The Seat is placed directly over the Axle, bringing the weight of the operator on the wheels instead of on the back of the horse. The Rake is operated entirely by the power of the horse, the little finger of the operator being sufficient to throw it in gear and out, thus rendering it capable of being operated by a boy, an infirm person, or any one who can drive a horse. Mounted on Iron Axles, and with Iron Bars there is little liability to wear and loss of repair.

The NORTHFORD RAKE works equally well on rough, uneven and smooth ground.

The SMITH & COWLES' RAKE will pile a larger winrow than any other Rake in use.

Therefore the great **"Champion Rake of 1863"** is at present second to none of its kind as a *Labor Saving Machine*, and in a year, when labor itself is less in supply than demand, every farmer will naturally seek the best Machine and most economical to supply its place. Such a Machine we take pleasure in presenting in the

SMITH & COWLES' HORSE RAKE.

of Chapman Maltby's plant, including the coconut dipper business, and began turning out hay rakes that were wonderful time-savers. The Smith of Smith & Cowels Co. was Edward T. Smith, for whom the Northford library was named. (The money for the library was donated by his daughter Clara Smith, Ph.D., who was Professor of Mathematics at Wellesley College.)

Not all the best-laid plans of Northford's industrialists succeeded. Thelus Todd, a successful farmer and cattle dealer in Northford, ran a busy grist mill on the branch of the Farm River that flows out of Paug Pond, which subsequently became a reservoir for Wallingford. During the Civil War, he decided to build a plant for making wrapping paper out of straw, as paper was much in demand. After

building a large mill and outfitting it with expensive machinery, he found to his dismay that the flow of water was insufficient to run the equipment. Possibly his cattle-trading and grist mill business contributed to his ingenious solution of the problem. He approached David Stevens, Sr., who ran a successful grist mill and factory for making flatware on the Quinnipiac River just southwest of Wallingford. Todd suggested that he and Stevens swap homes and factories, and this was done, the deal being completed in 1869. Water flow that was insufficient to run Todd's paper mill was great enough to enable Stevens to continue making flatware, and Todd found that the Quinnipiac more than sufficed to run his paper mill.

There was more to this deal than swapping homes and factories, for it brought the Stevens family to Northford. One son, Elizur, married Chapman Maltby's daughter Harriet and subsequently joined his father-in-law in the partnership of Maltby, Stevens and Curtiss Co., established in Shelton, Connecticut in 1879 for the manufacture of flatware. Two other sons of David Stevens, Henry and David Stevens, Jr., established a thriving card business in Chapman Maltby's former factory in Northford. They made the usual business cards for men, but their great success lay in Christmas cards, valentines and ''sparking'' cards, carrying appropriate messages. By 1871, they were experimenting with highly ornamented Christmas cards. The Stevens brothers tried to keep up with the widespread demands for their Christmas cards but soon found themselves competing with twenty-five other Christmas card companies—all in Northford. For ten years Northford led the industry in production of Christmas cards.

These forty years of manufacturing occurred without any great influx of workers from outside of the town. The population of the Town of North Branford was 1,016 in 1840 and 1,025 in 1880, of whom about 300 lived in the village of Northford. The employees in the factories evidently came from the local farms. When the factories in Northford closed down or moved away, as they did after 1880, the employees either moved with them or moved to other manufacturing centers, because the town's population dropped from 1,025 in 1880 to 825 in 1890 and did not exceed 1,000 again until 1920.

The decline in manufacturing in Northford after 1880 has often been explained by the fact that the Air Line Railroad, expected to go via Northford, was routed through Clintonville in 1870. This explanation may have some bearing, but a more likely one is the fact that the Farm River is a small stream and that the factories on it could not accommodate the growing demands for their output. Many of the factories were shifted to towns on larger rivers like the Naugatuck, Housatonic, Quinnipiac and Connecticut, where larger plants could be built to provide a greater output. The former factory sites in Northford have thus all but disappeared, leaving behind only the bare outlines of their dams and sluiceways.

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From the book The History of North Branford and Northford, *by* **Herbert C. Miller, M.D.,** *published under the auspices of the Totoket Historical Society, North Branford.*

Dr. Miller grew up in Northford and divided his career between Yale (1926-45), as undergraduate, medical student, and eventually Assistant Professor of Pediatrics; and the University of Kansas (1945-78), as Professor and Chairman in the Department of Pediatrics. Now retired, he is back on the farm at Northford.

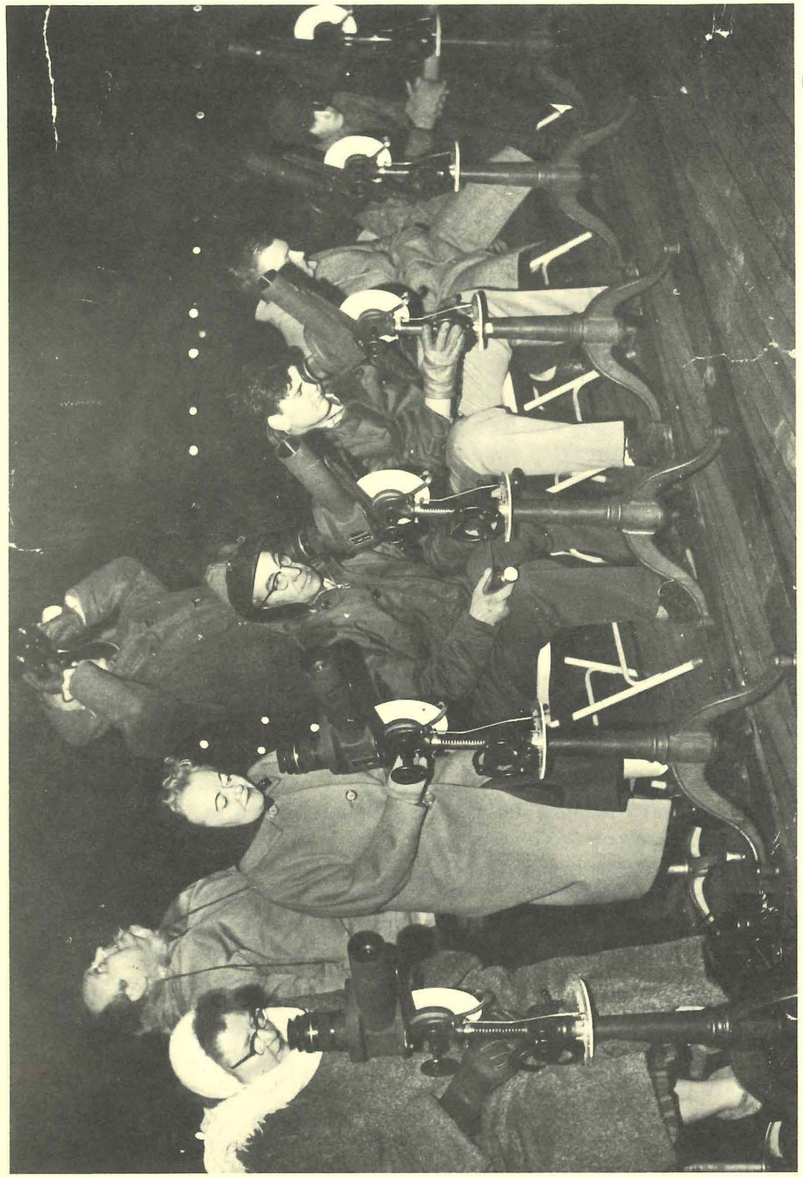
The Astronomical Society of New Haven

by James D. English

Many New Haveners in the late nineteenth and early twentieth centuries were active in amateur astronomy, making systematic observations of the heavens with their own telescopes. They worked in isolation and were unaware of other people in the community who shared their interest. In 1937 the Astronomical Society of New Haven came into existence following a chance meeting between Frank Burnham, of the New Haven Clock Company, and Donald Kimball, an instructor in science at a local high school. A growing number of amateur astronomers joined the new society, which was soon invited by Frank Schlesinger, Director of the Yale Observatory, to hold its meetings at the old observatory on Prospect Street. Continued cooperation with Yale advanced the development of the society, which met at the Yale Observatory from 1937 to 1949. Dirk Brouwer, who succeeded Schlesinger in 1942, was a constant source of support. The society was incorporated in 1953.

By 1949 the membership of the society had grown to sixty, and the room at the observatory was overcrowded. The meetings were relocated to a lounge in the Hall of Graduate Studies on York Street, where meetings were held until 1954. That fall, a classroom in Strathcona Hall became available, and this was used for meetings until 1971. After that, meetings were held at the Watson Astronomical Center on Sachem Street until 1974. For the next five years, the society had no regular meeting place and met at Southern Connecticut State College and some of the firehouses in Hamden. In the fall of 1979, it secured a meeting room in the Mitchell Library in Westville, where meetings are currently held.

In addition to the regular meetings at which a guest speaker presents a lecture on astronomy, there has been much observing by members. Many own their own telescopes and have joined together for observing nights. It has not been possible for the society to buy land and construct its own observatory, but the Yale Astronomy Department now allows it the use of a ten-inch refractor at the Bethany Observing Station. Observing nights are now held once a month, using this



Some of the members of the New Haven Moonwatch Team shown at their telescopes during the winter of 1957-58 on the roof of what is now Southern Connecticut State University. Seated left to right are Miss Sara Furnald, Mrs. Frank Velardi, Frank Velardi, George Ralston, James Plato, and Gerard Amann. Standing behind them are the team leaders, Professor Robert L. Brown of S.C.S.U. and Dr. Henry Specht, a member of the New Haven Astronomical Society.

telescope and the telescopes of members. Joint observing sessions for the public have been held, and the nationwide Astronomy Day program every May has resulted in a display for the public on the Green. In addition, the society has been host to amateur astronomers from the Northeast Region of the Astronomical League in 1948, 1957, and 1980.

Outstanding members of the community who have been active in the Astronomical Society include the co-founders, Frank Burnham and Donald Kimball; James Neale; Grace Rademacher, who was President for two terms; Helen Velardi, who was President and a great organizer of programs; William Cleaver, of the First New Haven National Bank; Henry Specht; Stephen LeRoy; and Samuel Edge. More recently the society has been led by past President Jim Hopkins and by retiring President David Merrill, who has greatly enlarged the scope of activities. The newly-elected President is Tina Pollock.

This year marks the twenty-fifth anniversary of one of the most interesting and dramatic periods in the history of the Astronomical Society: the Moonwatch observing program, the first observations of artificial satellites launched by Russia and the United States. During 1956 there were growing reports that the launching of artificial earth satellites was at hand as rocket technology improved. It was believed that the first satellites to be put in orbit would be from the United States Navy's Vanguard program. These tiny objects would be about six inches in diameter and would circle the earth in an orbit slightly above and below the equator. The Army was also working on its own program, the Explorer series, which would employ a slightly larger satellite. Meanwhile, there were growing reports that the Soviet Union was planning to place a satellite in orbit ahead of the United States. The race to launch the first earth satellite had implications which extended into the field of military superiority, for the same rockets could be used as intercontinental ballistic missiles.

As a result of conversations between scientists and the Astronomical League in 1956, it became clear that amateur astronomers could play a vital role in helping to track the first artificial satellites. A worldwide system of tracking cameras was planned to take photographs of satellites in many parts of the world, but it would not be ready before 1958. Most likely several satellites would be launched before the camera system was in operation, and visual observations by amateur astronomers would help to compute their orbits. The organization of amateur observers, known as the Moonwatch program, was arranged by the Smithsonian Astrophysical Observatory in Cambridge, Massachusetts.

Many amateur astronomers owned their own telescopes, which were either reflecting, with a mirror at the lower end of the tube to reflect celestial objects, or refracting, in which the observer looks directly at the sky through a system of lenses. These telescopes, however, were of no value for the Moonwatch program because their magnification was too great and their fields of view too small. A satellite passing through this reduced field of view would flash through the field in about two seconds. What was needed was a series of very small telescopes

with a low magnification and a wide field of view. The typical Moonwatch station, of which there were eventually more than 100 in the United States, consisted of a team of fifteen to twenty amateur astronomers. Observations were made in the twilight period just after sunset or just before dawn, when the sky was dark and the satellite would reflect the light from the sun just below the horizon. Most stations had from six to ten small telescopes set up on a long table oriented along a north-south line, each telescope being tilted at a slightly different angle so that any satellite passing overhead would be picked up by one or more of the telescopes.

It was important that the position of each Moonwatch station be measured as accurately as possible. Another necessity was a shortwave radio to receive time signals from WWV in the United States or the Dominion Observatory in Canada. A tape recorder was used at each observing session to record the time signals and the voices of observers, who would call out, ''In!'' when a satellite entered their telescopes' field of view and ''Out!'' when the satellite passed out of the field of view. By playing back the tape when the observing session was over, the exact time and position of the observation were determined and then relayed to the Smithsonian Astrophysical Observatory, where all the reports were being compiled. Since it was believed that the first satellites would be small American Vanguards and Explorers, the original expectation was to observe objects that would be extremely faint, perhaps only barely visible through the Moonwatch telescopes. Moonwatch stations in the southern United States would have an advantage over northern stations, as it appeared that the orbits of the first satellites would not come farther north than Florida. Certainly there was no expectation that the first satellite launching would involve an object of the first magnitude, which would be clearly visible to the naked eye! A great many of the Moonwatch stations held practice sessions for observing during the spring and summer of 1957 as reports increased of an imminent satellite launching. In some cases, planes with faint lights on their undersides flew over the Moonwatch stations and were successfully tracked by amateurs.

The Astronomical Society of New Haven was Station Number 87 in the nationwide Moonwatch program, and eventually close to thirty members volunteered to take part in observing sessions. Clearly the cooperation of a local college was vital in arranging an observing site. Probably with this fact in mind, in 1956 the society had elected as its president Robert Brown, Director of Earth Sciences at what was then known as New Haven State Teachers College (now Southern Connecticut State University). Brown was nationally known in the field of science education, with an excellent background in astronomy and geology. He approached President Hilton C. Buley of New Haven State Teachers College, who granted permission for the society to use the roof of the administration building for the Moonwatch station. Robert Brown was one of the two leaders of the station, the other being Henry Specht, a very experienced amateur astronomer who had great experience with all types of telescopes. Born in Germany, Specht came to this

country as a young man and studied at Cornell. He was an industrial chemist by profession. Together these two men planned the ordering of equipment, which followed a $100 contribution by members of the society. The basic telescope was the Edscorp Satellite Scope, magnifying 5.5 times, which was manufactured by the Edmund Scientific Company. Several organizing sessions were held at the college during the months preceding the launching of Sputnik I to familiarize members of the team with their new equipment.

The members of the New Haven Moonwatch team were a diverse group. James Plato, who was with the Southern New England Telephone Company, achieved fame with Robert Brown in making the first sighting of the Sputnik I rocket in the United States. Frank and Helen Velardi had been active members of the society for years, and Helen was later President. Ann Wetherbee was on the staff of the Yale Library. William Cleaver, a very experienced observer, was Vice President in charge of the Trust Department at the First New Haven National Bank. Desmond Carney was a sales engineer, John Tellier was a student at Fairfield University, and Francis Monahan was a student at West Haven High School. John Zukel was a biologist at U.S. Rubber Company, the Reverend David Bradley was a minister, and Samuel Edge was with the New Haven Gas Company. James English was then employed at the Union and New Haven Trust Company, while Dorothy Floto worked for the Winchester Division of Olin Mathieson Corporation. Dr. Everett Rademacher was a psychiatrist, and his wife, Grace, had served two terms as President of the society. Other members included Sara Furnald from the Yale Library, James Neal, Larry Cox, Arthur Griswold, Ed Wetherbee, Benn Sattler, Elmer Wright, Stephen LeRoy, Belle Brunell (who later married Desmond Carney), George Ralston, Russell Mower, Gerald Amann, Ralph DeMatteo, and Earl Allaire. A system of telephone communication was established so that members of the Moonwatch team would be called when the Smithsonian Astrophysical Observatory predicted the passage of a satellite over New Haven.

On the morning of October 5, 1957, Americans learned in early morning news broadcasts that on the previous day the Soviet Union had successfully launched the first artificial earth satellite, a sphere two feet in diameter named Sputnik I, which was broadcasting radio signals back to earth. Sputnik 1 weighed 184 pounds and was circling the earth at an altitude of 560 miles, taking one hour and thirty-six minutes for each orbit. The orbit was tilted at an angle of sixty-five degrees to the equator, which insured maximum visibility over the whole earth except for the polar regions. The Sputnik itself, because of its extremely small size, was a very faint object, and only a few of the Moonwatch stations ever succeeded in observing it. The object which was observed was a long section of the booster rocket which had placed Sputnik in orbit and which was traveling close to the satellite. This rocket section measured close to 100 feet in length and was clearly visible to the naked eye during twilight periods.

Many Americans felt shock and disappointment that our country was not the first to place an object in space. But there was also a sense of curiosity and a desire

to observe the Soviet satellite. The New Haven Moonwatch station was immediately alerted for observations, but for the first few days in orbit the satellite and its rocket section did not appear in a twilight period where they could be observed.

Word arrived from the Smithsonian Astrophysical Observatory that Thursday morning, October 10, would be the first opportunity to sight the rocket section during morning twilight. Due to some confusion, the whole Moonwatch team was not notified, and only Robert Brown and James Plato were present at the Moonwatch station on that morning. At 6:23 a.m., shortly before sunrise, Jim Plato sighted a moving object of about the third magnitude rising in the northwestern sky. He called Brown's attention to this object at once, and they succeeded in tracking the object with telescopes for thirty seconds. Other Moonwatch stations in Cambridge, Massachusetts and other parts of New England were covered by clouds that morning. Word was sent immediately to the Smithsonian Astrophysical Observatory, which confirmed the first sighting of the Sputnik rocket anywhere in North America. Members of the Astronomical Society of New Haven were delighted to hear this news and shared the excitement of the discovery.

Over the following two weeks, there were several observing sessions with the full Moonwatch team during the early morning hours. The weather was very clear during this period, and the stars were brilliantly clear when members arrived on the roof just after 5:00 a.m. The observers were seated along the table, bent over their telescopes and anxiously awaiting a sighting of the Sputnik rocket. The shortwave radio was sending out its time signals in Universal time (the time on the Greenwich meridian in England), an announcement of each minute and then a series of beeps for each passing second. Brown and Specht stood behind the table, studying their latest data for the day's appearance and ready to alert the team as the time for appearance approached. Usually one member of the team observed with binoculars low along the northwestern horizon, where the rocket section would first be seen. And then, usually close to 6:00 a.m., one would notice a new "star" rising among the constellations in the northwest where the sky was still dark. The Sputnik rocket took about four minutes to cross the sky and shone with a steady light, appearing as a first-magnitude object. On most of the crossings it was viewed passing through the field of view of one of the Moonwatch telescopes, and a record of voice signals from that observer was superimposed on the tape recording of time signals. After the rocket section disappeared into the glow of the sunrise in the southeast, the team enjoyed coffee and doughnuts provided by Frank and Helen Velardi and prepared the report to send to the Smithsonian Observatory.

On November 2, 1957, the Soviet Union launched its second earth satellite, Sputnik II. The launching coincided with the fortieth anniversary of the Bolshevik Revolution. Sputnik II consisted of the third stage of the rocket which launched it into space and was considerably heavier than Sputnik I, weighing 1,120 pounds. It traveled in an orbit 1,056 miles above the earth and sharply inclined to the

equator. Sputnik II contained a dog named Laika, the first living creature to travel in orbit around the earth, whose physical reactions to spaceflight were radioed back to earth. The satellite was first sighted by the New Haven Moonwatch team on the morning of November 5, and a series of observations were made during the morning hours in November.

Meanwhile, the United States satellite program was having its problems. Early in December 1957, the first Vanguard satellite was to be launched at Cape Canaveral, but the rocket exploded on the launching pad. It was decided to assign the first satellite launching to the Army, and on January 31, 1958, a Jupiter C missile placed Explorer I in orbit. This satellite measured seventy-nine inches in length and weighed close to thirty pounds. Explorer I traveled in an orbit inclined thirty-five degrees to the equator, which meant that it passed lower in the southern skies as seen from New Haven. The first sighting of Explorer I from our station was made on February 6, 1958.

The Moonwatch station continued to make observations of satellites during 1958 and 1959, although there were fewer sessions than in 1957. Many of the original telescopes were replaced by a new type, the Army M6 war surplus telescope, covering eight degrees in the sky and magnifying ten times. These were more effective in spotting the fainter American satellites.

Sputnik III, which was launched by the Russians in the summer of 1958, is remembered as an object which blinked on and off like a firefly as it crossed the sky, since the rocket was tumbling end over end in orbit. A new type of observation was made during this period, an attempt to observe dying satellites as they re-entered the earth's atmosphere and burned up like fiery meteors. On the evening of April 13, 1958, we were notified by the Smithsonian Observatory that the orbit of Sputnik II was coming closer to the upper atmosphere and that we should keep careful watch during the evening hours for a possible re-entry. About 9:30 that night, Robert Brown was observing at his home with family and friends when a bright, flaming object was seen crossing the sky, moving southeastward. This was the death of Sputnik II: it plunged into the atmosphere and provided a spectacular sight to observers from New England to the Caribbean, where it was last observed.

By the end of 1958, the Moonwatch program was beginning to fade out. Astronomers were grateful for the vital data presented to them in the early months of Soviet and American satellites, but the worldwide system of tracking cameras was now complete, and visual observations were no longer needed. The New Haven Moonwatch team went out of business in the spring of 1960, although several other stations continued to observe well into the 1960s, providing information on some of the fainter satellites. With the profusion of satellite launching in later years and with literally thousands of objects now in orbit around the earth, a very sophisticated system of cameras and computer analysis is required to keep track of their orbits.

The Moonwatch period is one to which the Astronomical Society of New Haven

looks back with pride and nostalgia on the twenty-fifth anniversary of the first Sputnik launching. The society recalls the message sent to the Moonwatch team by Leon Campbell, who directed the program from the Smithsonian Astrophysical Observatory: ''This is a particularly capable group of people. It is not to be measured on its total of observations because this part of the country is not a good observing area. They have made eighteen observations of thirteen transits of satellites. They observed the first Russian satellites and have turned in observations on Explorer 1, the first American satellite. The last is pretty good because it's pretty far north and the number of observing opportunities are limited. The team has a very fine leader in Prof. Brown. They are an interested and completely devoted group.''

This paper was prepared with the aid of articles which appeared from 1957 to 1959 in the New Haven Register, New Haven Journal-Courier, *and* Sky & Telescope Magazine.

The Fourth Annual Trees of Christmas Exhibit and Sale, sponsored by the New Haven Colony Historical Society and Friends of Connecticut Hospice will open Saturday, December 10 with the Patrons' Party, to be held from 8 to 11 p.m. The Exhibit and Sale will be open to the public Sunday, December 11 through Sunday, December 18, from 10 a.m. to 5 p.m.

The Trees of Christmas Exhibit and Sale will contain over 100 decorated trees, wreaths and centerpieces in addition to an ornament tree where visitors may pick their favorite ornament. This year we have added a new feature, a raffle of a gingerbread house and afghan.

It takes many volunteers as well as hundreds of ornaments and decorations to make this important fund raiser a success. All donations will be gratefully accepted.

As in the past, the Trees of Christmas is free to the public. Refreshments will be served.

Tax-Free Life Income Plan Will Benefit Society

A Pooled Income Fund has been established by a local bank, serving as a receptacle for deferred gifts to the New Haven Foundation. Donors contemplating a bequest to the New Haven Foundation for whatever purposes are encouraged to consider instead a capital gift to this Fund, which will yield income to the donor for his or her lifetime before reverting to the Foundation.

A long-time friend of the New Haven Colony Historical Society recently furnished generous future support for the Society in this way, transferring capital to the Pooled Income Fund for the eventual benefit of the Society via the New Haven Foundation. He, meanwhile, enjoys the income, while taking advantage of special tax benefits under current IRS regulations.

These benefits can be explained to anyone interested in helping the Society with a future gift of endowment, by myself or Board member Brooks Shepard.

Mrs. Frank C. Hepler
Chairman, Development Committee

The New Haven Colony Historical Society
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New Haven, Connecticut 06510

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